



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 146260**

**TO: Lansana Nyalley  
Location: 5c21/5c18  
Art Unit: 1621  
Monday, March 07, 2005**

**Case Serial Number: 10/724970**

**From: Noble Jarrell  
Location: Biotech-Chem Library  
Rem 1B71  
Phone: 272-2556**

**Noble.jarrell@uspto.gov**

### **Search Notes**

*Invental*

=> d his

(FILE 'HOME' ENTERED AT 13:47:47 ON 07 MAR 2005)

FILE 'HCAPLUS' ENTERED AT 13:48:42 ON 07 MAR 2005

L1 1 (US20040234779 OR US6663973 OR US6051321)/PN.

FILE 'REGISTRY' ENTERED AT 13:49:19 ON 07 MAR 2005

FILE 'HCAPLUS' ENTERED AT 13:49:29 ON 07 MAR 2005

L2 TRA L1 1- RN : 2 TERMS

FILE 'REGISTRY' ENTERED AT 13:49:29 ON 07 MAR 2005

L3 2 SEA L2

FILE 'WPIX' ENTERED AT 13:49:33 ON 07 MAR 2005

L4 1 (US20040234779 OR US6663973 OR US6051321)/PN

=> b hcap

FILE 'HCAPLUS' ENTERED AT 13:50:03 ON 07 MAR 2005

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FILE COVERS 1907 - 7 Mar 2005 VOL 142 ISS 11

FILE LAST UPDATED: 6 Mar 2005 (20050306/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all 11

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:297362 HCAPLUS

DN 130:312774

ED Entered STN: 14 May 1999

TI Low dielectric constant materials prepared from photon or plasma assisted CVD

IN Lee, Chung J.; Foggiato, Giovanni Antonio; Wang, Hui

PA Quester Technology, Inc., USA

SO PCT Int. Appl., 70 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM B32B009-04

ICS B32B015-08; C08J007-18; C23C016-00; H05H001-02; H05H001-24

CC 38-2 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9921706	A1	19990506	WO 1998-US21755	19981015

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
 DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,  
 KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,  
 MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,  
 TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6051321	A	20000418	US 1997-957480	19971024 <--
AU 9910879	A1	19990517	AU 1999-10879	19981015
JP 2001521061	T2	20011106	JP 2000-517840	19981015
US 6663973	B1	20031216	US 1999-468378	19991220 <--
US 2004234779	A1	20041125	US 2003-724970	20031201 <--
PRAI US 1997-957480	A	19971024		
WO 1998-US21755	W	19981015		
US 1999-468378	A1	19991220		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9921706	ICM	B32B009-04
	ICS	B32B015-08; C08J007-18; C23C016-00; H05H001-02; H05H001-24
WO 9921706	ECLA	B05D007/24E; C09D004/00+C08G77/04; C09D004/00+C08G77/00; C23C016/30; C23C016/40B2; H01L021/312; H01L; H01L021/312B2; H01L021/312F
US 6051321	ECLA	B05D007/24E; C09D004/00+C08G77/00; C09D004/00+C08G77/04; C23C016/30; C23C016/40B2; H01L021/312; H01L; H01L021/312B2; H01L021/312F <--
US 6663973	ECLA	B05D007/24E; C09D004/00+C08G77/00; C09D004/00+C08G77/04; C23C016/30; C23C016/40B2; H01L021/312; H01L; H01L021/312B2; H01L021/312F <--
US 2004234779	ECLA	B05D007/24E; C09D004/00+C08G77/00; C09D004/00+C08G77/04; C23C016/30; C23C016/40B2; H01L021/312; H01L; H01L021/312B2; H01L021/312F <--

AB Intermetal dielec. and interlevel dielec. that have dielec. consts. (K) ranging from 2.0 to 2.6 are prepared from plasma or photon assisted CVD or transport polymerization. The low K dielec. materials are prepared from siloxanes and F-containing aromatic compds. The thin films combine barrier and adhesion layer functions with low dielec. constant functions, thus eliminating the necessity for sep. adhesion and barrier layers, and layers of low dielec. constant. The dielec. materials disclosed in this invention are particularly useful for < 0.18 .mu.m ICs, or when copper is used as conductor in future ICs.

ST siloxane fluorinated arom compd copolymer plasma; integrated circuit sealant CVD

IT Fluoropolymers, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(aromatic; low dielec. constant materials prepared from photon or plasma assisted CVD)

IT Vapor deposition process

(chemical; low dielec. constant materials prepared from photon or plasma assisted CVD)

IT Electric insulators

Integrated circuits

Sealing compositions

(low dielec. constant materials prepared from photon or plasma assisted CVD)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(low dielec. constant materials prepared from photon or plasma assisted CVD)

IT Polymerization

(plasma; transport; low dielec. constant materials prepared from photon or plasma assisted CVD)  
IT Vapor deposition process  
(plasma; low dielec. constant materials prepared from photon or plasma assisted CVD)  
IT Semiconductor films  
(thin; low dielec. constant materials prepared from photon or plasma assisted CVD)  
IT Polymerization  
(transport; low dielec. constant materials prepared from photon or plasma assisted CVD)  
IT 113628-85-6P, Octamethoxycyclotetrasiloxane polymer 223682-64-2P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(plasma; low dielec. constant materials prepared from photon or plasma assisted CVD)  
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Caporiccio: US 5334454 A 1994 HCAPLUS  
(2) Toyota Cent Res & Dev; JP 60231442 A 1985 HCAPLUS

=> b reg

FILE 'REGISTRY' ENTERED AT 13:50:10 ON 07 MAR 2005  
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STRUCTURE FILE UPDATES: 4 MAR 2005 HIGHEST RN 842949-55-7  
DICTIONARY FILE UPDATES: 4 MAR 2005 HIGHEST RN 842949-55-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

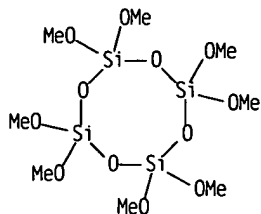
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide 13 tot

L3 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2005 ACS on STN  
RN 223682-64-2 REGISTRY  
CN Cyclotetrasiloxane, octamethoxy-, polymer with 1,4-bis(trifluoromethyl)benzene (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Benzene, 1,4-bis(trifluoromethyl)-, polymer with octamethoxycyclotetrasiloxane (9CI)  
MF (C8 H24 O12 Si4 . C8 H4 F6)x  
CI PMS  
PCT Polyother. Polyother only  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL  
DT.CA CAplus document type: Patent  
RL.P Roles from patents: PREP (Preparation); USES (Uses)

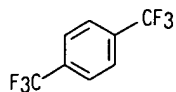
CM 1

CRN 83177-12-2  
CMF C8 H24 O12 Si4



CM 2

CRN 433-19-2  
CMF C8 H4 F6

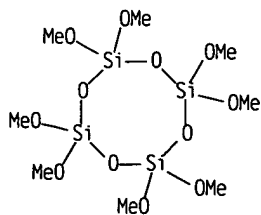


1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2005 ACS on STN  
RN 113628-85-6 REGISTRY  
CN Cyclotetrasiloxane, octamethoxy-, homopolymer (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN Octamethoxycyclotetrasiloxane homopolymer  
CN Silicic acid (H8Si4O12), octamethyl ester, homopolymer  
MF (C8 H24 O12 Si4)x  
CI PMS  
PCT Polyother. Polyother only  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL  
DT.CA CAplus document type: Journal: Patent  
RL.P Roles from patents: PREP (Preparation); USES (Uses)  
RL.NP Roles from non-patents: PREP (Preparation)

CM 1

CRN 83177-12-2  
CMF C8 H24 O12 Si4



2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> b wpix

FILE 'WPIX' ENTERED AT 13:50:14 ON 07 MAR 2005  
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FILE LAST UPDATED: 3 MAR 2005 <20050303/UP>  
MOST RECENT DERWENT UPDATE: 200515 <200515/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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FOR DETAILS. <<<

=> d all 14

L4 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
AN 1999-312894 [26] WPIX  
DNN N1999-233720 DNC C1999-092350  
TI Deposition of siloxane and fluorinated aromatic polymer low dielectric  
constant films.  
DC A26 A31 A32 A85 L03 P73 X14  
IN FOGGIATO, G A; LEE, C J; WANG, H  
PA (QUES-N) QUESTER TECHNOLOGY INC; (FOGG-I) FOGGIATO G A; (LEEC-I) LEE C J;  
(WANG-I) WANG H; (CANO) CANON USA INC  
CYC 83  
PI WO 9921706 A1 19990506 (199926)\* EN 71 B32B009-04  
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SZ UG ZW  
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD  
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD  
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
UG UZ VN YU ZW  
AU 9910879 A 19990517 (199939)  
US 6051321 A 20000418 (200026) B32B009-04 <--  
KR 2001031401 A 20010416 (200163) B32B009-04  
JP 2001521061 W 20011106 (200203) 69 C23C016-50  
US 6663973 B1 20031216 (200382) B32B009-04 <--  
US 2004234779 A1 20041125 (200478) C23C016-00 <--  
ADT WO 9921706 A1 WO 1998-US21755 19981015; AU 9910879 A AU 1999-10879  
19981015; US 6051321 A US 1997-957480 19971024; KR 2001031401 A KR  
2000-704418 20000424; JP 2001521061 W WO 1998-US21755 19981015. JP

2000-517840 19981015; US 6663973 B1 Div ex US 1997-957480 19971024, US 1999-468378 19991220; US 2004234779 A1 Div ex US 1997-957480 19971024, Cont of US 1999-468378 19991220, US 2003-724970 20031201

FDT AU 9910879 A Based on WO 9921706; JP 2001521061 W Based on WO 9921706; US 6663973 B1 Div ex US 6051321; US 2004234779 A1 Div ex US 6051321. Cont of US 6663973

PRAI US 1997-957480 19971024; US 1999-468378 19991220; US 2003-724970 20031201

IC ICM B32B009-04; C23C016-00; C23C016-50

ICS B32B015-08; C08J007-04; C08J007-18; C23C016-48; H01L021-312; H01L021-768; H05H001-02; H05H001-24; H05H001-46

ICA B32B009-00

AB WO 9921706 A UPAB: 19990723

NOVELTY - Low dielectric constant films for interlevel and intermetal dielectrics are prepared by plasma or photon assisted chemical vapor deposition (PACVD) or transport polymerisation (TP) of selected siloxanes and fluorine-containing aromatic compounds.

DETAILED DESCRIPTION - A method of optimizing the deposition of siloxanes and fluorinated aromatic polymers comprises controlling at least one of the reactor power level, gas flow rates (412), the reactor vacuum level (472) and the mixture (404) of siloxanes and fluorinated aromatic polymers.

INDEPENDENT CLAIMS are also included for the following:

(a) a method of depositing void-free thin film dielectrics having dielectric constants of 2.0-2.6 at 100-4000 Angstrom /min;

(b) a method as above in which the first deposit is 100-500 Angstrom of siloxane dielectric and the second of fluorinated aromatic dielectric;

(c) a method as above of depositing copolymers of the above or depositing a hydrophobic thin film dielectric;

(d) a semiconductor thin film as above in which high rotational flexibility between siloxane and aromatic moieties permit tight bonding to the substrate;

(e) a semiconductor thin film made from a precursor  $Y-Ar(Y')_z$  (A), where  $z = 1-6$ , Ar is aromatic and has at least one  $sp^2$  double bond, C-H bond and C-F bond, the Ys are leaving groups and the film is used as a barrier or adhesion layer;

(f) a method of making a step-gradient thin film comprising processing a first and then a second precursor in a TP and/or a CVD system to deposit the polymer;

(g) a method as above of making a continuous-gradient thin film comprising progressively changing the proportions of the two precursors;

(h) the semiconductor films formed as above; and

(i) semiconductor thin films comprising a siloxane layer giving adhesion and barrier layer functions and a fluorinated aromatic layer giving high thermal stability and low dielectric functions and such films inhibiting the exposure of semiconductor devices to water or diffusion of metal ions into the polymer film.

USE - As intermetal dielectric and interlevel dielectric films with barrier and adhesion layer functions (claimed) for integrated circuits at below the 0.18 micron level or when copper is used

ADVANTAGE - The films have low dielectric constants of 2.0-2.6 and combine barrier and adhesion with low dielectric functions (claimed).

DESCRIPTION OF DRAWING(S) - A transport polymerisation system using electromagnetic radiation is shown.

Precursors 404

Flow controller 412

Dissociation tube 420

Deposition chamber 422

wafer 448

Dwg. 4/12

FS CPI EPI GMPI

FA AB; GI

MC CPI: A06-A00E2; A10-E04A; A11-B05A; A12-E07C; L04-C01B

EPI: X14-F02





=> d his

(FILE 'HOME' ENTERED AT 15:08:58 ON 07 MAR 2005)

FILE 'REGISTRY' ENTERED AT 15:09:03 ON 07 MAR 2005

L1 STR  
L2 SCR 2039 OR 2041 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 OR 205  
L3 SCR 1838 AND 1969 AND 2043  
L4 5 L1 AND L3 NOT L2  
L5 135 L1 AND L3 NOT L2 FULL  
SAV TEM NYA970F0/A L5

FILE 'HCAPLUS' ENTERED AT 15:17:59 ON 07 MAR 2005

L6 92 L5  
E LEE C/AU  
L7 607 E3.E24-25  
E LEE CHUNG/AU  
L8 238 E3.E71-80  
E WANG H/AU  
L9 3306 E3-38  
E WANG HUI/AU  
L10 1810 E3-97  
E FOGGIATO G/AU  
L11 12 E5-6  
L12 34693 (QUESTER OR CANON)/CS.PA  
L13 1 L6 AND L7-12  
L14 91 L6 NOT L13  
L15 QUE PY<=1997 OR AY<=1997 OR PRY<=1997 OR PD<19971024 OR AD<1997  
L16 49 L14 AND L15  
SEL HIT RN L16

FILE 'REGISTRY' ENTERED AT 15:23:33 ON 07 MAR 2005

L17 61 E1-61  
SEL RN 54-61 41-50 33-35 1 L17  
L18 22 E62-83

FILE 'HCAPLUS' ENTERED AT 15:31:27 ON 07 MAR 2005

L19 30 L18 AND L16

=> b reg

FILE 'REGISTRY' ENTERED AT 15:32:05 ON 07 MAR 2005

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STRUCTURE FILE UPDATES: 4 MAR 2005 HIGHEST RN 842949-55-7  
DICTIONARY FILE UPDATES: 4 MAR 2005 HIGHEST RN 842949-55-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

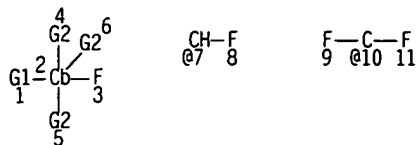
Please note that search-term pricing does apply when  
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que sta 15

L1 STR



VAR G1=7/10

VAR G2=H/F

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 2

DEFAULT ELEVEL IS LIMITED

ECOUNT IS E6 C AT 2

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L2 SCR 2039 OR 2041 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 O

R 2054

L3 SCR 1838 AND 1969 AND 2043

L5 135 SEA FILE=REGISTRY SSS FUL L1 AND L3 NOT L2

100.0% PROCESSED 31218 ITERATIONS

135 ANSWERS

SEARCH TIME: 00.00.01

=&gt; b hcap

FILE 'HCAPLUS' ENTERED AT 15:32:29 ON 07 MAR 2005

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FILE COVERS 1907 - 7 Mar 2005 VOL 142 ISS 11

FILE LAST UPDATED: 6 Mar 2005 (20050306/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=&gt; d all fhistr 113

L13 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:297361 HCAPLUS

DN 130:325524

ED Entered STN: 14 May 1999

TI Manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices

IN Lee, Chung J.; Wang, Hui; Foggiano, Giovanni  
Antonio  
PA Quester Technology, Inc., USA  
SO PCT Int. Appl., 69 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM B32B009-04  
ICS C08F002-46; C07C002-72  
CC 35-7 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 76  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9921705	A1	19990506	WO 1998-US21753	19981015
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6140456	A	20001031	US 1997-957792	19971024
AU 9910878	A1	19990517	AU 1999-10878	19981015
PRAI US 1997-957792	A	19971024		
WO 1998-US21753	W	19981015		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9921705	ICM	B32B009-04
	ICS	C08F002-46; C07C002-72
WO 9921705	ECLA	C08G061/02B
US 6140456	ECLA	C08G061/02B

AB Fluorinated poly(p-xylylenes) (F-PPX) and fluorinated poly(p-fluoroxilylenes) (F-PPFX) are manufactured by (1) selecting as starting material a fluorinating agent (SF<sub>4</sub>, DAST) and compound YC(O)ArC(O)Y (Y = leaving group; Ar = phenylene, fluorine-containing phenylene), (2) processing the starting material to produce a tetrafluoro precursor, (3) further processing the precursor with transport polymerization or chemical vapor deposition method, and (4) polymerizing the reactive intermediate into the fluorinated poly(p-xylylene) polymers. These polymers are used for the manufacture of low dielec. films with high thermal stability and are sufficiently strong to withstand planarization and polishing for the manufacture of integrated circuits.

ST polyxylylene para fluorinated manuf; fluorinated polyxylylene para film integrated circuit; polymn transport fluorinated para polyxylylene manuf; deposition chem vapor fluorinated para polyxylylene manuf

IT Vapor deposition process  
(chemical; manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT Dehydrogenation catalysts  
Integrated circuits  
(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT Fluoropolymers, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT Polymerization  
(transport; manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT 1309-37-1, Iron oxide, uses 1344-28-1, Alumina, uses 7440-06-4.

Platinum, uses

RL: CAT (Catalyst use); USES (Uses)

(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT 25654-96-0P 31606-40-3P 223682-48-2P 223682-50-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT 223723-30-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP

(Properties); PREP (Preparation); USES (Uses)

(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

IT 623-27-8, 1,4-Diformylbenzene 7783-60-0, Sulfur tetrafluoride

38078-09-0, Diethyl aminosulfurtrifluoride

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Chow: US 3268599 A 1966 HCAPLUS

(2) Gorham: US 3342754 A 1967 HCAPLUS

(3) Lang, C; Mat Res Soc Symp Proc 1995, V381, P45 HCAPLUS

IT 223723-30-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP

(Properties); PREP (Preparation); USES (Uses)

(manufacture of fluorinated poly(p-xylylene) polymers for semiconductor devices)

RN 223723-30-6 HCAPLUS

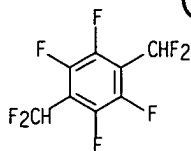
CN Benzene, 1,4-bis(difluoromethyl)-2,3,5,6-tetrafluoro-, homopolymer (9CI)

(CA INDEX NAME)

CM 1

CRN 114649-17-1

CMF C8 H2 F8



*Inventors*

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L19 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:440135 HCAPLUS

DN 131:88337

ED Entered STN: 19 Jul 1999

TI Polyamide-polyimides for optical communication industry and method for their preparation

IN Suh, Dong-Hack; Chung, Eun-Young; Rhee, Tae-Hyung

PA Samsung Electronics Co. Ltd., S. Korea; Korea Research Institute of Chemical Technology

SO Ger. Offen., 14 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C08G073-14  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 74

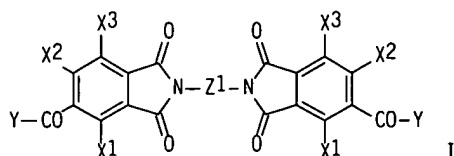
## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19860845	A1	19990708	DE 1998-19860845	19981231 <--
	CN 1224030	A	19990728	CN 1998-125197	19981208 <--
	CN 1226571	A	19990825	CN 1998-111793	19981230 <--
	GB 2332910	A1	19990707	GB 1998-28862	19981231 <--
	GB 2332910	B2	20000308		
	US 6028159	A	20000222	US 1998-223728	19981231 <--
	JP 11255897	A2	19990921	JP 1999-229	19990104 <--
	JP 2994373	B2	19991227		
PRAI	KR 1997-82004	A	19971231	<--	

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 19860845	ICM	C08G073-14
DE 19860845	ECLA	C08G073/14 <--
GB 2332910	ECLA	C08G073/14 <--
US 6028159	ECLA	C08G073/14 <--

GI



AB Polyamide-polyimides for the title use are manufactured by polymerization of H<sub>2</sub>NZNH<sub>2</sub> [Z = = divalent halo(cyclo)aliphatic group or divalent haloarom. group] with bisimides I [X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub> = halo, haloalkyl, haloalkoxy, haloaryl, NO<sub>2</sub>, OR<sub>1</sub>, or SR<sub>1</sub>, R<sub>1</sub> = haloalkyl or haloaryl, Z<sub>1</sub> = divalent halo(cyclo)aliphatic group or divalent haloarom. group, Y = halo].

ST polyamide polyimide halo group contg manuf optical communication;  
 bisphthalimide halo group contg polyamide polyimide manuf

IT Optical communication  
 (halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT Polyimides. preparation  
 Polyimides. preparation  
 Polyimides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-, fluorine-containing; halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT Polyimides. preparation  
 Polyimides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-, halogen-containing; halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT Polyimides. preparation  
 Polyimides. preparation  
 Polyimides. preparation  
 Polyimides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-polyether-, fluorine-containing; halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT Polyimides. preparation

- Polyimides. preparation  
 Polyimides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-polyether-; halogen-containing polyamide-polyimides from  
 bisphthalimides for optical communication industry)
- IT Fluoropolymers. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-polyether-polyimide-; halogen-containing polyamide-polyimides  
 from bisphthalimides for optical communication industry)
- IT Polyethers. preparation  
 Polyethers. preparation  
 Polyethers. preparation  
 Polyethers. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-polyimide-, fluorine-containing; halogen-containing  
 polyamide-polyimides from bisphthalimides for optical communication  
 industry)
- IT Fluoropolymers. preparation  
 Polyethers. preparation  
 Polyethers. preparation  
 Polyethers. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyamide-polyimide-; halogen-containing polyamide-polyimides from  
 bisphthalimides for optical communication industry)
- IT Polyamides. preparation  
 Polyamides. preparation  
 Polyamides. preparation  
 Polyamides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyether-polyimide-, fluorine-containing; halogen-containing  
 polyamide-polyimides from bisphthalimides for optical communication  
 industry)
- IT Polyamides. preparation  
 Polyamides. preparation  
 Polyamides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyether-polyimide-; halogen-containing polyamide-polyimides from  
 bisphthalimides for optical communication industry)
- IT Polyamides. preparation  
 Polyamides. preparation  
 Polyamides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyimide-, fluorine-containing; halogen-containing polyamide-polyimides from  
 bisphthalimides for optical communication industry)
- IT Polyamides. preparation  
 Polyamides. preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polyimide-, halogen-containing; halogen-containing polyamide-polyimides from  
 bisphthalimides for optical communication industry)
- IT 229976-81-2P 229976-82-3P 229976-83-4P 229976-84-5P 229976-85-6P  
 229976-86-7P 229976-87-8P 229976-88-9P 229976-89-0P 229976-90-3P  
 229976-91-4P 229976-92-5P 229976-93-6P 229976-94-7P  
 229976-95-8P 229976-96-9P 229976-97-0P 229976-98-1P 229976-99-2P  
 229977-00-8P 229977-01-9P 229977-02-0P 229977-03-1P 229977-04-2P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (halogen-containing polyamide-polyimides from bisphthalimides for optical  
 communication industry)
- IT 92-87-5. 4,4'-Diaminobiphenyl 101-80-4 108-45-2. 1,3-Benzenediamine.  
 reactions 341-58-2. 2,2'-Bis(trifluoromethyl)benzidine 1038-66-0.  
 4,4'-Diaminooctafluorobiphenyl 1198-63-6. 1,3-Diaminotetrafluorobenzene  
 2479-47-2. 2,2-Bis(4-aminophenyl)propane 7719-09-7. Thionyl chloride  
 138530-75-3. Bis(4-aminotetrafluorophenyl) sulfone 226988-57-4.  
 Bis(4-aminotetrafluorophenyl)difluoromethane 226988-60-9.  
 2,2-Bis(4-aminotetrafluorophenyl)hexafluoropropane 226988-70-1.

2,2-Bis(4-aminotetrafluorophenyl)hexachloropropane 226994-49-6.

4-Chloroformyl-3,5,6-trichlorophthalic anhydride 226994-55-4.

2,2-Bis(4-aminophenyl)hexachloropropane 226994-63-4.

Bis(4-aminotetrachlorophenyl) ether

RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer precursor; halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT 229976-68-5P 229976-69-6P 229976-70-9P 229976-71-0P 229976-72-1P

229976-73-2P 229976-74-3P 229976-75-4P 229976-76-5P 229976-77-6P

229976-78-7P 229976-79-8P 229976-80-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(monomer; halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

IT 229976-91-4P 229976-92-5P

RL: IMF (Industrial manufacture); PREP (Preparation)

(halogen-containing polyamide-polyimides from bisphthalimides for optical communication industry)

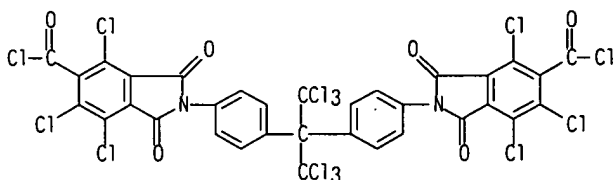
RN 229976-91-4 HCAPLUS

CN 1H-Isoindole-5-carbonyl chloride, 2,2'-[[2,2,2-trichloro-1-(trichloromethyl)ethylidene]di-4,1-phenylene]bis[4,6,7-trichloro-2,3-dihydro-1,3-dioxo-, polymer with 4,4'-(difluoromethylene)bis[2,3,5,6-tetrafluorobenzeneamine] (9CI) (CA INDEX NAME)

CM 1

CRN 229976-73-2

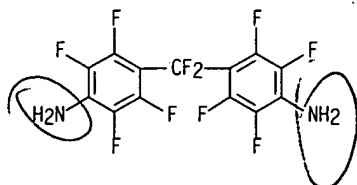
CMF C33 H8 Cl14 N2 O6



CM 2

CRN 226988-57-4

CMF C13 H4 F10 N2



RN 229976-92-5 HCAPLUS

CN Poly[(4,6,7-trichloro-1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene[2,2,2-trichloro-1-(trichloromethyl)ethylidene]-1,4-phenylene(4,6,7-trichloro-1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonylimino(2,3,5,6-tetrafluoro-1,4-phenylene)(difluoromethylene)(2,3,5,6-tetrafluoro-1,4-phenylene)iminocarbonyl] (9CI) (CA INDEX NAME)